

Listing of Claims:

This listing of claims reflects all claim amendments and replaces all prior versions, and listings, of claims in the application. Material to be inserted is in **bold and underline**, and material to be deleted is in ~~strikeout~~ or (if the deletion is of five or fewer consecutive characters or would be difficult to see) in double brackets [[]].

In brief, claim 90 has been canceled, without prejudice; and claims 29, 33-35, 83, and 88 have been amended.

1-27. (Canceled)

28. (Previously Presented) The kit of claim 83, wherein the luminophore is photoluminescent.

29. (Currently Amended) The kit of claim 28, wherein the photoluminescence lifetime of the luminophore is greater than the rotational correlation time of the luminophore bound to the substrate in the absence of the mass label and less than the rotational correlation time of the complex formed by binding of the substrate or the product to the mass label.

30. (Previously Presented) The kit of claim 83, wherein the luminophore is bound to the substrate noncovalently.

31. (Canceled)

32. (Canceled)

33. (Currently Amended) The kit of claim 83, wherein the mass label includes a plurality of binding moieties that bind to the substrate or the product such that the mass label is capable of specifically binding to more than one substrate or product molecule at the same time.

34. (Currently Amended) The kit of claim 83, the mass label being a first mass label, the kit further comprising a second mass label capable of specifically binding to (1) the substrate, (2) a complex formed by binding of the luminophore to the substrate, (3) the product, (2) [(4)] the first mass label, or (3) [(5)] a combination thereof, but not to the luminophore alone.

35. (Currently Amended) The kit of claim 34, wherein the second mass label is capable of specifically binding to at least two first mass labels, so that the second mass label may form crosslinks between molecules of the substrate or product.

36. (Previously Presented) The kit of claim 34, wherein the second mass label includes avidin, biotin, lectin, sugar, an immunological binding partner, or a combination thereof.

37. (Previously Presented) The kit of claim 83, wherein the luminophore is not normally present in the sample.

38. (Previously Presented) The kit of claim 83, wherein the mass label is not normally present in the sample.

39. (Previously Presented) The kit of claim 83, wherein the property of the luminophore is related to a rotational diffusion coefficient of the luminophore.

40. (Previously Presented) The kit of claim 39, wherein the property may be measured using a technique selected from the group consisting of polarization and light scattering.

41. (Previously Presented) The kit of claim 83, wherein the property of the luminophore is related to the translational diffusion coefficient of the luminophore.

42-82. (Canceled)

83. (Currently Amended) A kit for detecting enzyme activity in a sample, the kit comprising:

an enzyme;

a luminophore bound to a substrate for the enzyme; and

a particulate mass label distinct from the enzyme and capable of specifically binding to ~~the substrate or~~ a product of the substrate produced by action of the enzyme on the substrate, but not **capable of specifically binding to the substrate** [[both]], the particulate mass label including a bead;

wherein a luminescence property of the luminophore is sensitive to binding of the mass label to the ~~substrate or~~ product.

84. (Previously Presented) The kit of claim 83, wherein the bead is selected from the group consisting of a glass bead, a latex bead, and a polyacrylonitrile bead.

85. (Canceled)

86. (Canceled)

87. (Canceled)

88. (Currently Amended) The kit of claim 83, wherein the mass label is capable of binding specifically to the product, and wherein the luminescence property of the luminophore is different for the luminophore bound to the substrate than for a complex of the luminophore, the product, and the mass label.

89. (Previously Presented) The kit of claim 88, wherein the luminescence property may be measured using fluorescence polarization.

90. (Canceled)